AMENDMENTS TO THE SPECIFICATION:

Please amend the title of the invention as follows:

~~Session initiating method, icon-image creating apparatus, session initiating program, and icon-image creating program~~ SESSION INITIATING METHOD, ICON-IMAGE CREATING APPARATUS, SESSION INITIATING PROGRAM, AND ICON-IMAGE CREATING PROGRAM

Please amend the specification as follows: Page 1, Line 8 (Technical Field) to Line 13:

~~The present invention relates to a session-initiating method, an icon-image creating apparatus, a session initiating program, and an icon-image creating program and, more particularly, to a session initiating method, an icon-image creating apparatus, a session initiating program, and an icon-image creating program that are applied to or used in a computer system equipped with a GUI~~ The present invention relates to a session initiating method, an icon-image creating apparatus, a session initiating program, and an icon-image creating program applied to or used in a computer system equipped with a graphical user interface (GUI).

Please amend the specification as follows: Page 1, Line 16 (Background Art) to Page 3 Line 6:

Conventionally, a user ID and a password are sometimes required for a session, that is, a process to connect to another computer, such as log-in and log-on, or for a process to start an application. Introduction of the user ID and the password enable to prevent unauthorized access. Prevention of the unauthorized access includes prevention of unauthorized access by an outsider, and prevention of unnecessary access to a confidential part, providing a hierarchically structure, by a user that is permitted to access.

Conventionally, the user ID and the password are used for construction and operation of a secure system.

However, there are problems described below in the conventional technology.

The user ID and the password are merely meaningless and elusive character strings, and inputting such character strings with a keyboard at each initiation of the session is very burdensome to users. For this reason, users sometimes put a piece of paper on which the user ID and the password are noted near the computer. As a result, the computer system eventually becomes an insecure computer system practically.

Furthermore, such meaningless character strings are difficult to be managed by users, and therefore, the password is frequently lost. This causes an extra work for a system administrator to reissue the password, interferes with a management work, which is an original task of the system administrator.

Some users feel uncomfortable to be held under management of the system administrator. In other words, sometimes it is desirable to provide a system that does not make the users recognize presence of the system administrator depending on a use. On the contrary, sometimes it is desirable to provide a system in which a limit is set to access without being recognized by

the users.

Moreover, in a recent trend toward equipping with a GUI in many electronic appliances, it is also undesirable to force users to input character-based complicated character strings against the trend.

Accordingly, it is an object of the present invention to provide a computer system with increased security, that relieves the users of inputting character-based complicated start information, and that enables the system administrator to manage the system without letting the users recognize the start information.

Another object of the present invention is to construct a highly convenient computer system while relieving the users of management of the character-based complicated start information.

Conventionally, a user ID and a password are required for a session, which is a process to access another computer, such as a log-in or a log-on, or for a process to start an application. Introduction of the user ID and the password enable to prevent unauthorized access. Prevention of the unauthorized access includes prevention of unauthorized access by an outsider, and prevention of unnecessary access to a confidential part, providing a hierarchically structure, by a user that is permitted to access. In other words, the user ID and the password are used for construction and operation of a secure system.

However, the user ID and the password are usually a series of character strings, and inputting such character strings with a keyboard at each initiation of the session is sometimes a cumbersome process to users. Besides, the user ID and the password are often assigned with a meaningless combination of characters, which is hard to memorize. For this reason, some users

put a piece of paper on which the user ID and the password are noted near the computer. As a result, the computer system eventually becomes a practically insecure.

Furthermore, such meaningless character strings are difficult to be managed by a user, which causes a frequent loss of the password. This gives an extra work to a system administrator to reissue the password, and gets in the way of performing the system administrator's management work.

Depending on a usage, it is highly desirable to provide a system that does not make the users recognize presence of the system administrator because some users feel uncomfortable being managed under the system administrator. On the contrary, depending on a situation, it is desirable to provide a system in which a limit is set to access without being recognized by the users.

Moreover, in a recent trend of mounting a GUI in various electronic appliances, it is undesirable to force users to input complicated character strings, which is against the trend."

Please amend the specification as follows: Page 3, Line 9 (Disclosure of the Invention) to Page 7, Line 13:

A session initiating method according to the present invention is applied to a computer system equipped with a graphical user interface (GUI), and includes specifying an icon image that corresponds to each of user; determining embedded information to determine whether start information that is necessary for initiating a session that is predetermined is embedded in the icon image specified in the image specifying; extracting the start information from the icon

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image in accordance with an algorithm that uniquely corresponds to each of the user when it is determined that the start information is embedded in the icon image in the determining; setting up the session; inputting, during the session that is set up in the setting up, the start information extracted in the extracting; verifying whether the start information input in the inputting meets a condition for initiating the session; and controlling the session to initiate the session if it is determined, in the verifying, that the start information meets the condition, and to discontinue setting up the session if it is determined, in the verifying, that the start information does not meet the condition.

Therefore, it is possible to initiate a session by manipulating an icon that includes start information embedded that is essentially indecipherable cipher set for each of users. The initiation of a session is to make a desirable state of the user, and the setting up the session is execution of an initial process of a program or components (static link library or dynamic link library) at the initiation of the session.

According to the present invention, in the session initiating method described above, the start information includes a user ID and a password of the user.

Therefore, the initiation of the session is possible even if the user does not remember his/her user ID and password.

An icon-image creating apparatus according to the present invention creates an icon image to initiate the session described above, and includes an image-information-inputting unit that inputs icon image information that corresponds to each of users; a user-information inputting unit that inputs user information that is assigned to each of the users; an area-detecting unit that detects an area in which additional information can be embedded without altering the icon

image, according to a structure of the icon image information input by the image-information inputting unit; an area determining unit that determines the area in which the user information, which is input by the user information inputting unit, is to be embedded, from the areas detected by the area detecting unit, in accordance with an algorithm that uniquely corresponds to each of the users; an information embedding unit that embeds the user information in the area determined by the area-determining unit; and an icon-image outputting unit that outputs the icon image in which the user information is embedded by the information-embedding unit.

Therefore, it is possible to embed user information as an essentially indecipherable cipher in the icon image that is easily identified by the user.

According to the present invention, in the icon-image creating apparatus described above, the user information includes a user ID and a password that is necessary for initiating the session.

Therefore, the initiation of the session is possible even if the user does not remember his/her user ID and password.

A computer program for initiating a session according to the present invention is applied to a computer system equipped with a GUI, and makes a computer function as an image specifying unit, an embedded-information determining unit, an information extracting unit, a session-setting-up unit, an information input unit, a verification unit, and a session controlling unit, and makes the computer execute specifying an icon image that corresponds to each of user; determining embedded information to determine whether start information that is necessary for initiating a session that is predetermined is embedded in the icon image specified in the image specifying; extracting the start information from the icon image in accordance with an algorithm that uniquely corresponds to each of the user when it is determined that the start information is

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~~embedded in the icon image in the determining; setting up the session; inputting, during the~~
~~session that is set up in the setting up, the start information extracted in the extracting; verifying~~
~~whether the start information input in the inputting meets a condition for initiating the session;~~
~~and controlling the session to initiate the session if it is determined, in the verifying, that the start~~
~~information meets the condition, and to discontinue setting up the session if it is determined, in~~
~~the verifying, that the start information does not meet the condition.~~

~~Therefore, it is possible to initiate the session by manipulating the icon that includes the~~
~~essentially indecipherable start information set for each of the user.~~

~~According to the present invention, in the computer program for initiating a session~~
~~described above, the start information includes a user ID and a password of the user.~~

~~Therefore, the initiation of the session is possible even if the user does not remember~~
~~his/her user ID and password.~~

~~A computer program for creating an icon image to initiate the session according to the~~
~~present invention makes a computer function as an image-information-inputting unit, a user-~~
~~information inputting unit, an area detecting unit, an area determining unit, an information~~
~~embedding unit, and makes the computer execute inputting icon image-information that~~
~~corresponds to each of users; inputting user-information that is assigned to each of the users;~~
~~detecting an area in which additional information can be embedded without altering the icon~~
~~image, according to a structure of the icon image information input by the image-information~~
~~inputting unit; determining the area in which the user information, which is input by the user~~
~~information inputting unit, is to be embedded, from the areas detected by the area detecting unit,~~
~~in accordance with an algorithm that uniquely corresponds to each of the users; embedding the~~

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user information in the area determined by the area determining unit; and outputting the icon image in which the user information is embedded by the information-embedding unit.

Therefore, it is possible to embed user information as an essentially indecipherable cipher in the icon image that is easily identified by the user.

According to the present invention, in the computer program for creating an icon-image described above, the user information includes a user ID and a password that is necessary for initiating the session.

Therefore, the initiation of the session is possible even if the user does not remember his/her user ID and password.

It is an object of the present invention to solve at least the above problems in the conventional technology.

A session initiating method according to one aspect of the present invention is applied to a computer system equipped with a graphical user interface and includes specifying an icon image corresponding to a user; determining whether start information necessary for initiating a session that is predetermined is embedded in the icon image; extracting the start information from the icon image based on an algorithm that is unique to the user when it is determined that the start information is embedded in the icon image at the determining; setting-up the session; inputting the start information extracted at the extracting during the session set up at the setting-up; verifying whether the start information input at the inputting satisfies a condition for initiating the session; and controlling the session based on a result of the verifying. When it is verified that the start information satisfies the condition, the controlling includes initiating the session, and when it is not verified that the start information satisfies the condition, the

controlling includes aborting the session.

A computer program for initiating a session according to another aspect of the present invention realizes the session initiating method according to the above aspect.

A computer readable recording medium according to still another aspect of the present invention stores the computer program for initiating a session that is applied to a computer system equipped with a graphical user interface according to the above aspect.

An icon-image creating apparatus that creates an icon image to initiate a session according to still another aspect of the present invention includes an image-information inputting unit that inputs icon image information corresponding to a user; a user-information inputting unit that inputs user information of the user; an area detecting unit that detects a first area based on a structure of the icon image information, the first area for embedding additional information without altering the icon image; an area determining unit that determines a second area, based on an algorithm that is unique to the user, from among the first areas detected, the second area for embedding the user information; an information embedding unit that embeds the user information in the second area determined; and an icon-image outputting unit that outputs the icon image with the user information embedded.

A computer readable recording medium according to still another aspect of the present invention stores a computer program for creating an icon-image to initiate a session according to the above aspect.

The other objects, features, and advantages of the present invention are specifically set forth in or will become apparent from the following detailed description of the invention when read in conjunction with the accompanying drawings.

Please amend the specification as follows: Page 8, Line 17 (Best Mode for Carrying Out the Invention) to Line 18:

~~The present invention will be explained below in detail with reference to the accompanying drawings~~.

Exemplary embodiments of a session initiating method, an icon-image creating apparatus, a session initiating program, and an icon-image creating program according to the present invention are explained in detail with reference to the accompanying drawings.

Please amend the specification as follows: Page 8, Line 19 (Best Mode for Carrying Out the Invention):

~~[First Embodiment]~~

Please amend the specification as follows: Page 8, Line 20 (Best Mode for Carrying Out the Invention) to Line 22:

A computer system to which a session initiating method according to the present invention is applied will be explained in ~~a first embodiment~~ a first embodiment of the present invention.

Please amend the specification as follows: Page 8, Line 23 (Best Mode for Carrying Out the Invention) to Line 24:

~~(Configuration Outline of Computer System To Which Session Initiating Method Is Applied)~~

Please amend the specification as follows: Page 10, Line 4 (Best Mode for Carrying Out the Invention):

~~(Hardware Configuration of Server Device 101)~~

Please amend the specification as follows: Page 11, Line 7 (Best Mode for Carrying Out the Invention):

~~A configuration of the hard disk~~ A configuration of the hard disk 204 will be described later.

Please amend the specification as follows: Page 12, Line 14 (Best Mode for Carrying Out the Invention):

~~(Hardware Configuration of Client Device 102)~~

Please amend the specification as follows: Page 13, Line 15 (Best Mode for Carrying Out the Invention) to Line 17:

The hard disk 304 stores various kinds of software programs (software) such as an

operating system (OS), an application program, and a driver. ~~The configuration of the hard disk~~

The configuration of the hard disk 304 will be described later.

Please amend the specification as follows: Page 18, Line 25 (Best Mode for Carrying Out the

Invention) to Page 19, Line 7:

A flow of a process by the computer system 100 will be explained while exemplifying

displays that is transitional. Fig. 5 is a flowchart of an example of the process by the computer

system 100. The client device 102 requests a process for the log-in to the server device 101

(S101). Fig. 6 is a schematic of an example of a display to request for the log-in process. As

shown, a prompt "WAITING FOR CONNECTION REQUEST FROM CLIENT" that indicates a

~~state of the server device~~ a state of the server device 101 is displayed.

Please amend the specification as follows: Page 27, Line 5 (Best Mode for Carrying Out the

Invention) to Line 25:

The area determining unit 804 determines the area for embedding the user information

input by the user-information input unit 802 from the areas detected by the area detecting unit

803, according to an algorithm that uniquely corresponds to the user. For example, when the

user ID is formed with eight alphabetic characters, information of 8 bytes=64 bits is required,

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and the area determining unit 804 determines the areas by uniquely associating 64 places for

embedding the information with the user. Various methods can be used to uniquely associate the

places for embedding the information with the user. For example, it is possible to use the user ID

or the password to be associated with the places. The icon image itself can also be used. The

simplest way of association is to embed the information in the areas in order in which the area is

detected by the area detecting unit 803, but the method is not limited to this method. Since

extraction or restoration of the user ID and the password is impossible without recognition, at the

server device at the server device 101, of a type of the algorithm used, the database unit 720

stores the user ID, the password, and the algorithm (or a clue to the algorithm), corresponding to

each of the user. A function of the area determining unit 804 can be implemented, for example,

by the OS 711, the icon-image creating program 712, the drawing software 716, and the database

unit 720.